Related U.S. Application Data

division of application No. 10/420,295, filed on Apr. 22, 2003, now Pat. No. 7,187,960.

(60) Provisional application No. 60/374,133, filed on Apr. 22, 2002.

(51) **Int. Cl.**

A61B 5/0205	(2006.01)
G01K 13/00	(2006.01)
G02C 11/00	(2006.01)
A61B 5/0476	(2006.01)
A61B 5/053	(2006.01)
G08B 5/36	(2006.01)

(52) **U.S. Cl.**

CPC ***A61B5/0026*** (2013.01); ***A61B 5/0042*** (2013.01); ***A61B 5/0059*** (2013.01); ***A61B 5/01*** (2013.01); ***A61B 5/015*** (2013.01); ***A61B 5/0205*** (2013.01); ***A61B 5/0476*** (2013.01); ***A61B 5/0537*** (2013.01); ***A61B 5/4064*** (2013.01); ***A61B 5/412*** (2013.01); ***A61B 5/6814*** (2013.01); ***A61B 5/6821*** (2013.01); ***A61B 5/72*** (2013.01); ***A61B 5/742*** (2013.01); ***A61B 5/746*** (2013.01); ***G01K 13/002*** (2013.01); ***G02C 11/10*** (2013.01); ***G08B 5/36*** (2013.01)

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,545,260	A		12/1970	Lichtenstein et al.
3,585,849	A		6/1971	Grolman
3,626,757	A		12/1971	Benzinger
3,724,263	A		4/1973	Rose et al.
3,769,961	A		11/1973	Fatt et al.
3,897,272	A		7/1975	Medlar
3,897,790	A		8/1975	Magilton et al.
3,963,019	A		6/1976	Quandt
4,186,184	A		1/1980	Zaffaroni
4,231,052	A		10/1980	Day et al.
4,297,685	A		10/1981	Brainard, II
4,305,399	A		12/1981	Beale
4,312,358	A		1/1982	Barney
4,321,261	A		3/1982	Ellis et al.
4,330,299	A		5/1982	Cerami
4,331,161	A		5/1982	Patel
4,344,315	A		8/1982	Moxon et al.
4,344,438	A		8/1982	Schultz
4,386,831	A		6/1983	Grounauer
4,444,990	A		4/1984	Villar
4,485,820	A		12/1984	Flower
4,488,558	A		12/1984	Simbruner et al.
4,595,020	A		6/1986	Palti
4,597,392	A		7/1986	Opitz et al.
4,628,938	A		12/1986	Lee
4,629,424	A		12/1986	Lauks et al.
4,771,792	A		9/1988	Seale
4,784,149	A		11/1988	Berman et al.
4,830,014	A		5/1989	Goodman et al.
4,846,196	A		7/1989	Wiksell et al.
4,860,755	A		8/1989	Erath
4,922,913	A		5/1990	Waters et al.
4,944,303	A		7/1990	Katsuragi
4,947,849	A		8/1990	Takahashi et al.
4,951,671	A		8/1990	Coan
4,979,831	A		12/1990	Schertz et al.
5,005,577	A		4/1991	Frenkel
5,046,482	A		9/1991	Everest
5,062,432	A		11/1991	James et al.
5,064,410	A	*	11/1991	Frenkel et al. 600/26
5,076,274	A		12/1991	Matsumoto
5,109,852	A		5/1992	Kaye et al.
5,115,815	A		5/1992	Hansen
5,148,807	A		9/1992	Hsu
5,165,409	A		11/1992	Coan
5,179,953	A		1/1993	Kursar
5,183,044	A		2/1993	Nishio et al.
5,190,039	A		3/1993	Takeuchi et al.
5,209,231	A		5/1993	Cote et al.
5,217,015	A		6/1993	Kaye et al.
5,222,495	A		6/1993	Clarke et al.
5,222,809	A		6/1993	Ehrenkranz
5,246,867	A		9/1993	Lakowicz et al.
5,251,627	A		10/1993	Morris
5,255,979	A		10/1993	Ferrari
5,295,495	A		3/1994	Maddess
5,297,554	A		3/1994	Glynn et al.
5,341,805	A		8/1994	Stavridi et al.
5,342,283	A		8/1994	Good
5,342,789	A		8/1994	Chick et al.
5,352,411	A		10/1994	Khuri
5,356,780	A		10/1994	Robinson et al.
5,375,595	A		12/1994	Sinha et al.
5,383,452	A		1/1995	Buchert
5,433,197	A		7/1995	Stark
5,435,307	A		7/1995	Friauf et al.
5,441,476	A		8/1995	Kitado et al.
5,503,770	A		4/1996	James et al.
5,522,662	A		6/1996	Shiokawa
5,636,635	A		6/1997	Massie et al.
5,653,239	A		8/1997	Pompei et al.
5,664,578	A		9/1997	Boczán
5,673,692	A		10/1997	Schulze et al.
5,685,319	A	*	11/1997	Marett 600/551
5,711,915	A		1/1998	Siegmund et al.
5,729,203	A	*	3/1998	Oka et al. 340/573.1
5,796,341	A	*	8/1998	Stratiotis 340/573.1
5,813,982	A		9/1998	Baratta
5,817,008	A		10/1998	Rafert et al.
5,820,557	A		10/1998	Hattori et al.
5,830,139	A		11/1998	Abreu
5,833,633	A		11/1998	Sarvazyan
5,854,078	A		12/1998	Asher et al.
5,860,934	A		1/1999	Sarvazyan
5,862,803	A		1/1999	Besson et al.
5,898,004	A		4/1999	Asher et al.
5,984,880	A		11/1999	Lander et al.
5,994,701	A		11/1999	Tsuchimoto et al.
6,011,984	A		1/2000	Van Antwerp et al.
6,028,323	A		2/2000	Liu
6,040,194	A		3/2000	Chick et al.
6,042,266	A		3/2000	Cheslock et al.
6,047,203	A		4/2000	Sackner et al.
6,054,928	A	*	4/2000	Lemelson et al. 340/573.4
6,072,180	A		6/2000	Kramer et al.
6,120,460	A		9/2000	Abreu
6,123,668	A		9/2000	Abreu
6,126,595	A		10/2000	Amano et al.
6,135,968	A		10/2000	Brounstein
6,152,875	A		11/2000	Hakamata
6,178,346	B1		1/2001	Amundson et al.
6,181,957	B1		1/2001	Lambert et al.
6,187,599	B1		2/2001	Asher et al.
6,196,714	B1		3/2001	Bellifemine et al.
6,197,534	B1		3/2001	Lakowicz et al.
6,197,928	B1		3/2001	Tsien et al.
6,203,193	B1		3/2001	Egawa
6,213,943	B1		4/2001	Abreu
6,256,522	B1		7/2001	Schultz
6,290,658	B1		9/2001	Kolich
6,292,685	B1		9/2001	Pompei
6,300,871	B1		10/2001	Irwin et al.
6,312,393	B1		11/2001	Abreu
6,319,540	B1		11/2001	Van Antwerp et al.
6,385,473	B1		5/2002	Haines et al.
6,385,474	B1		5/2002	Rather et al.
6,423,001	B1		7/2002	Abreu
6,432,050	B1	*	8/2002	Porat et al. 600/300
6,470,893	B1		10/2002	Boesen
6,529,617	B1		3/2003	Prokoski
6,536,945	B2		3/2003	Rolston